Kennedy Space Center
APOLLO PROGRAM DIRECTIVE

Date: April 12, 1967

KSC APOLLO PROGRAM DIRECTIVE NO. 4B
(INTERIM)

TO: Distribution

From: Apollo Program Manager

Subject: KSC Apollo Program Schedules, Controlled Milestones and Hardware Assignments

Action: All KSC Organizations are to implement the requirements of this Directive effective with the issuance date and on a continuing basis.

I. PURPOSE

This directive provides the basis for KSC Mission Support and operations planning through FY 68 pending receipt of MSF Program Guidelines. This interim directive supersedes KSC Apollo Program Directive No. 4A dated 27 December 1966.

II. ASSUMPTIONS

1. CSM 101 will be delivered no earlier than mid fourth quarter 1967 and delivery of subsequent CSM's will be on two months centers.

2. IM deliveries subsequent to IM-1 will be adjusted to be compatible with the CSM deliveries.

3. The MCC-H will require a minimum of 60 days turnaround from mission termination to next launch.

III. SCOPE

Attachment A provides Apollo Program schedules, hardware and launch complex assignments and mission assignments.

Attachment B provides KSC Apollo Program controlled schedule milestones and represent those significant events which must be accomplished in order to meet Program objectives.

Changes to Attachment B for Site Activation and Launch Operations controlled milestones will require prior approval of the Apollo Program Manager.

IV. RESPONSIBILITIES

Each KSC organization is responsible for the immediate implementation of the requirements of this Directive and for requesting changes to the controlled milestones under their management system, if required.

MISSION SUPPORT AND OPERATIONS PLANNING

Flight hardware assignments and associated flight schedules shown in this attachment form the basis for interim mission support and operations planning ~~for the next 14 months~~ DRW FY 68 pending receipt of revised OMSF Apollo Program guidelines. In all cases, KSC divisions should adjust their planning and that of their contractors to develop and maintain the capability to checkout and launch in accordance with schedules and program alternatives as outlined herein.

These assignments are based on schedules provided by OMSF and extrapolation where firm schedules have not been provided. These assignments are consistent with the fact that not all Apollo missions will be flown, but that one of the conditions described below will occur:

1. Spacecraft test flights on the Uprated Saturn I in support of the Lunar Landing Program will be transferred to the Saturn V as soon as that launch vehicle is capable of being manned (possibly AS 503). It is planned that this transfer will occur after the AS 205/CSM 101 flight.

2. A dual uprated Saturn I mission, AS 206/LM-2 and AS 207/CSM 102, is planned as an alternate mission to AS 503/LM-2 CSM 102. If the LM-2 CSM 102 mission is flown on AS 503 the 206/207 launch vehicles can be made available to follow-on ~~missions~~ P205 & AM-15 In any case a dual uprated Saturn I and a manned Saturn V will not be flown in the same time frame.

3. The contingency for an AS 503 unmanned flight, utilizing BP-30 should be maintained in the event that further Saturn V launch vehicle development flights are required beyond AS 501 and AS 502. In the event that this situation occurs, the 503 unmanned mission should take place from Pad "B". This plan would combine ~~[illegible]~~ vehicle operation and Pad "B" facility verification.

4. In the event the contingency AS 503/BP plan must be utilized, AS 504/LM-2 CSM 102 will be the first manned Saturn V flight in the mainline Apollo Program and the dual uprated Saturn I mission of condition 2 would be retained as an alternate mission.

HARDWARE AND LAUNCH COMPLEX ASSIGNMENT
SUMMARY
UPRATED SATURN I

LV	CSM	LM	LAUNCH COMPLEX
204	NC	LM-1	37
205	101	None	34
206*	NC	LM-2	37
207*	102	None	34

*Spacecraft assignments for the AS 206/LM-2 and AS 207/CSM 102 dual mission will provide an alternate for the AS 503/LM-2, CSM 102 mission after the "CSM Operations" mission of AS 205/CSM 101. In the event the AS 503/LM-2, CSM 102 mission is flown on schedule, AS 206 and AS 207 could be made available to follow-on programs.

HARDWARE AND LAUNCH COMPLEX ASSIGNMENT
SUMMARY
SATURN V

LV	CSM	LM	LAUNCH COMPLEX
AS 501	017	LTA	39A
AS 502	020	LTA	39A
AS 503	102	LM-2	39A
AS 503	BP-30	NONE	39B
AS 504 *	103	LM-3	39A
AS 505 *	104	LM-4	39B

* Spacecraft Assignments are dependent upon the successful LM-2/CSM 102 mission of AS 503. In the event AS 503 is an unmanned flight, AS 504/LM-2, CSM 102 will be the first planned manned flight in the Saturn V mainline Apollo Program.

UPRATED SATURN I WORK WEEK AND SHIFTS PLANNING

WORK WEEK PLANNING

AS 204 operations from first space vehicle integrated test through launch will be planned on a six (6) day work week.

AS 204 operations from start of stage checkout through the first space vehicle integrated test will be planned on a five (5) day work week with limited overtime.

AS 205, AS 206 and AS 207 operations from start of stage checkout through launch will be planned on a five (5) day work week with limited overtime. However, scheduling constraints may necessitate rescheduling and/or rerunning major tests on the weekend.

Activation and launch operations activities will be planned on a five (5) day work week. Activation and launch operations activities critical to achieving schedule objectives, that can be accomplished by a small crew, in comparison to the contractor's total activation/launch crew, will be planned on an around-the-clock basis including weekends as required. Examples of such type activities are:

a. Vehicle Erection
b. Stage Propulsion Checks
c. Hypergolic Tanking
d. Ordnance Installations
e. Certain Refurbishments
f. RP-1 Tanking
g. GSE Modifications
h. Any individual stage contractor work prior to launch vehicle electrical mate

Operational planning should be based on <u>not</u> scheduling integrated tests to be performed on two launch vehicles on the same day.

WORK SHIFTS PLANNING

Major tests will be conducted on first shift. (A work shift is to be considered as eight (8) working hours). Examples of major tests are: Plugs In Test, Plugs Out Test, Simulated Flight Test, Countdown Demonstration Test, Flight Readiness Test.

APOLLO/SATURN V WEEK AND SHIFTS
PLANNING

WORK WEEK PLANNING

Apollo/Saturn V activation and launch operations activities will be planned on a five (5) day work week. Activation and launch operations activities critical to achieving schedule objectives, that can be accomplished by a small crew, in comparison to the contractor's total activation/launch crew, will be planned on an around-the-clock basis including weekends as required. Examples of such type activities are:

a. Vehicle Erection
b. Stage Propulsion Checks
c. Hypergolic Tanking
d. Ordnance Installations
e. Certain Refurbishments
f. RP-1 Tanking
g. GSE Modifications
h. Any individual stage contractor work prior to launch vehicle electrical mate

Operational planning should be based on <u>not</u> scheduling integrated tests to be performed on two launch vehicles on the same day.

WORK SHIFTS PLANNING

Major tests will be conducted on first shift. (A work shift is to be considered as eight (8) working hours). Examples of major tests are: Plugs In Test, Plugs Out Test, Simulated Flight Test Countdown Demonstration Test, Flight Readiness Test.

Specifically, a major test may be defined as a test involving at least two or more stages and multiple systems. Overrun of major test into the next shift will be accomplished by overtime for key test personnel with remaining support being provided by normal second shift personnel. Key test personnel are defined as those required to maintain test continuity. Major tests will not normally be conducted on weekends, however, real time scheduling constraints may necessitate rescheduling and/or re-running a major test on the weekend.

Minor tests, test set-ups, maintenance and test evaluation will normally be planned for second shift. Specifically, a minor test may be defined as independent stage checks and other tests that may involve two or more stage contractors but are limited to small portions of the stage contractors test crew.

Third shift work will normally be limited to power off modifications, minor trouble-shooting and maintenance.

SATURN V ACTIVATION MILESTONES

PAD B

A.	LUT-3 1. OR 500F-2 2. OR CSM/LM C/O PAD B	Sept 26 1967 + WPA Feb 25 1968
	1. LUT-3 operational ready for 500F-2	August 29, 1967
	2. LUT-3 operational ready for Apollo/ Saturn V Flight Vehicle	April 1, 1968
B.	CSM/LM For AS 503	
	1. Complete CSM Block II GSE checkout and LM-3 GSE checkout on LUT-1 and VAB Hi-Bay #1	October 2, 1967 4 weeks later
	2. Complete CSM Block II GSE and LM-3 GSE checkout on MSS and Pad A	November 24, 1967 6 weeks later
C.	CSM/LM For 504	
	1. Complete CSM Block II GSE and LM-4 GSE checkout on LUT-2 and VAB Hi-Bay #1 or #3	December 1, 1967 4 weeks later
	2. Complete CSM/LM GSE checkout on Pad B for Back-up to AS 504	January 9, 1968 6 weeks later
D.	Complete all GSE/ESE installation and checkout in LCC Firing Room #3 to support operational space vehicle	April 15, 1968
E.	Complete all construction and outfitting and all GSE/ESE installation and checkout in VAB Hi-Bay #2 to support operational space vehicle	May 15, 1968
F.	**Pad B operational ready for AS 503/BP-30**	November 15, 1967

CONFIDENTIAL

SPACE VEHICLE	STAGE	EARLIEST START DATE OF STAGE CHECKOUT OPNS	COMPLETE SPACE VEHICLE ELEC. MATE OR READY FOR FIRST INTEG. S/V TEST	CAPABILITY RANGE	LAUNCH DATE	CAPABILITY RANGE
AS 204	S-IB SIVB S-IU LM-1	APR 7, 1967 APR 10, 1967 APR 11, 1967 MAY 15, 1967	Jul 24, 1967	6 weeks later	AUG 23 1967 ~~Sept. 6, 1967~~	6 weeks later
AS 205	S-IB SIVB S-IU SM 101 CM 101	DEC 11, 1967 DEC 12, 1967 DEC 13, 1967 NOV 15, 1967 NOV 15, 1967	Feb 5, 1968	6 weeks later	Mar 18, 1968	6 weeks later
AS 206	SIB SIVB S-IU LM-2	Nov 27, 1967 Nov 24, 1967 Nov 30, 1967 Jan 2 , 1968	Apr 18, 1968	6 weeks later	May 28-'68	6 weeks later
AS 207	SIB SIVB S-IU CSM 102	Mar 8, 1968 Mar 5, 1968 Mar 11, 1968 Jan 15, 1968	Apr 18, 1968	6 weeks later	May 28-'68	6 weeks later

Attachment B

SATURN V LAUNCH SCHEDULE

CONFIDENTIAL

SPACE VEHICLE	STAGE	EARLIEST START DATE OF STAGE CHECKOUT OPNS	COMPLETE SPACE VEHICLE ELEC. MATE OR READY FOR FIRST INTEG. S/V TEST	CAPABILITY RANGE	LAUNCH DATE	CAPABILITY RANGE
AS 501	S-IC S-II SIVB S-IU CSM 017 LTA-10	Oct 27, 1966 Jan 21, 1967 Nov. 1, 1966 Dec 22, 1966 Sep 15, 1966	May 22, 1967	6 weeks later	July 27,'67	6 weeks later
AS 502	S-IC S-II SIVB S-IU CSM 020 LTA-2	Mar 13, 1967 May 18, 1967 Feb 21, 1967 Mar 17, 1967 Jul 15, 1967 Jan 15, 1967	Aug 19, 1967	6 weeks later	Oct 12-'67	6 weeks later
AS 503	S-IC S-II SIVB S-IU BP-30	Sep 26, 1967 Sep 18, 1967 Sep 22, 1967 Sep 26, 1967 Oct 15, 1967	Nov 1, 1967	4 weeks later	Dec 29-'67	4 weeks later
AS 503	S-IC S-II SIVB S-IU CSM-102 LM-2	Jan 13, 1968 Jan 11, 1968 Jan 7 , 1968 Jan 15, 1968 Jan 15, 1968 Jan 2 ,1968	Mar 26, 1968	6 weeks later	May 27-'68	6 weeks later

Attachment B

APOLLO SATURN PROGRAM PLAN -

4/12/67

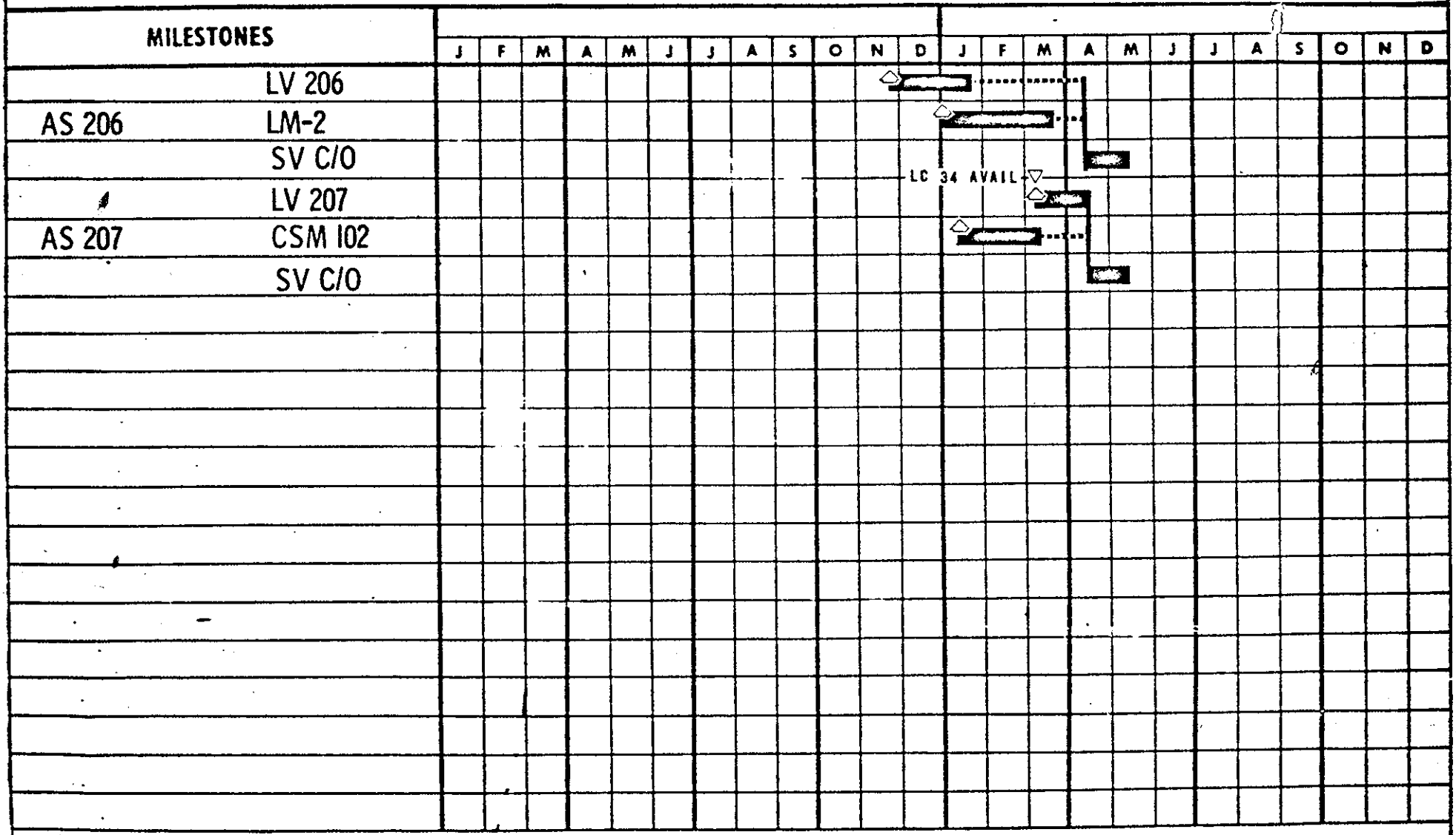
MILESTONES		1967 J	F	M	A	M	J	J	A	S	O	N	D	1968 J	F	M	A	M	J	J	A	S	O	N	D
	LV-501																								
AS-501	CSM-017																								
	LTA-10																								
	SV C/O																								
	LV-204																								
AS-204	LM-1																								
	SV C/O																								
	LV-502																								
AS-502	CSM-020																								
	LTA-2																								
	SV C/O																								
	LV-205																								
AS-205	CSM-101																								
	SV C/O																								
	LV 503																								
AS 503	BP 30																								
	SV C/O																								
	LC 503																								
AS 503	CSM 102																								
	LM 2																								
	SV C/O																								

NOTES

Attachment B

APOLLO SATURN PROGRAM PLAN

4/12/67



NOTES

Attachment B

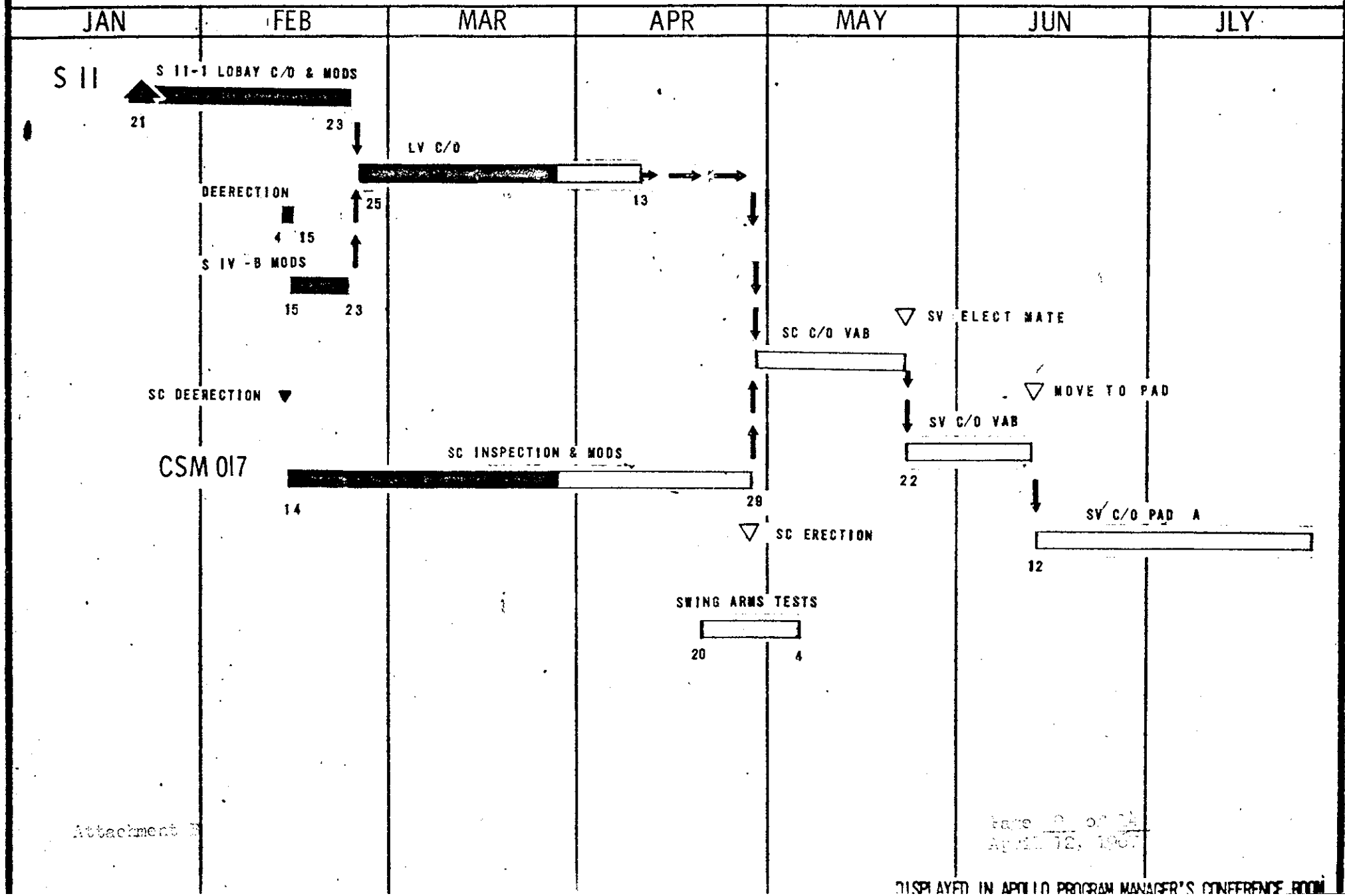
CHART NO. _____

Apollo Saturn Operations Flow
AS 501

PREPARED BY:

K.E. KERN GE/DC KEK

UPDATED 4/12/67



Attachment 3

Page 9 of 24
April 12, 1967

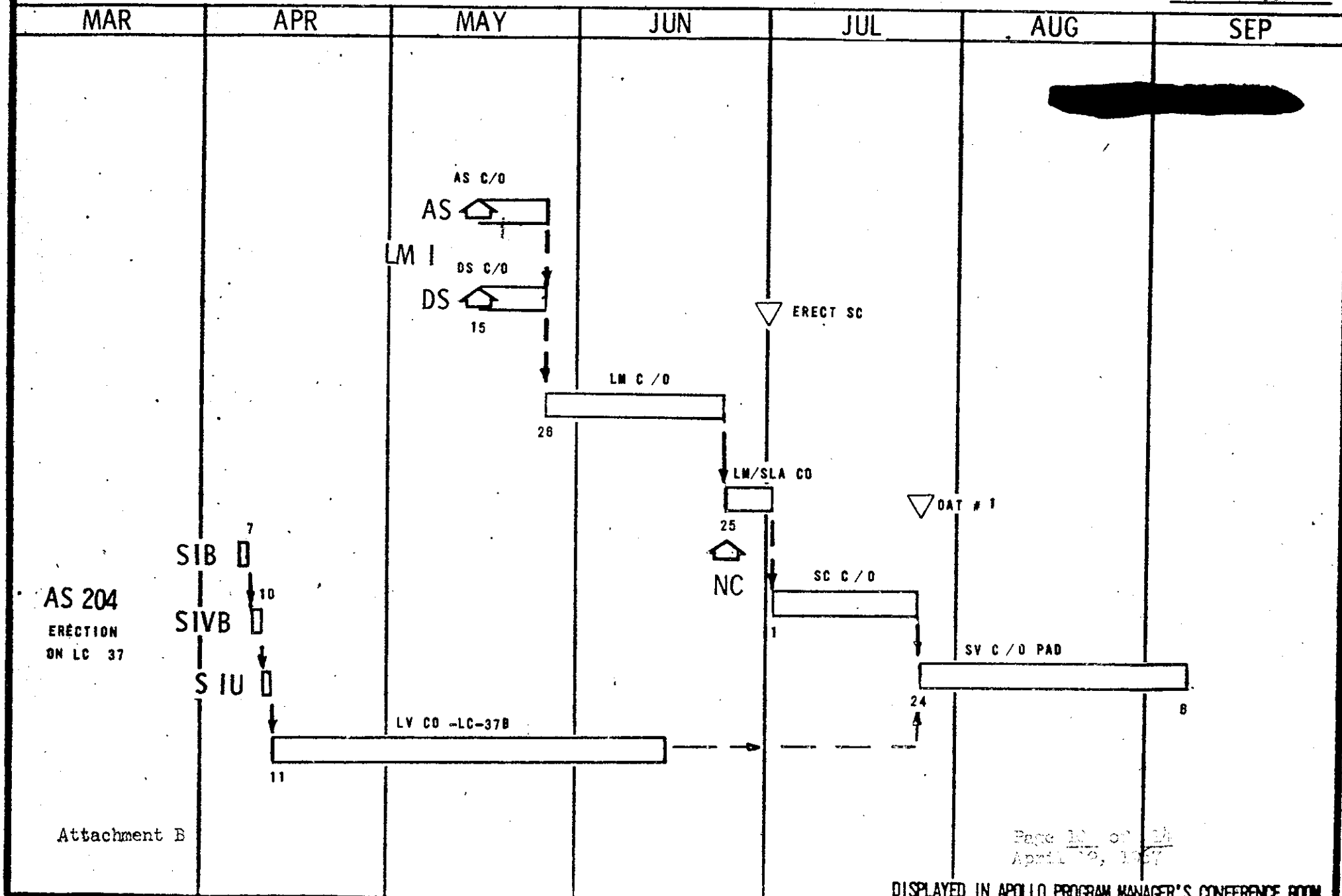
DISPLAYED IN APOLLO PROGRAM MANAGER'S CONFERENCE ROOM

CHART N[redacted]

Apollo Saturn Operations Flow

AS 204

PREPARED BY:
T. M. KNOWLES GE/DC
K. E. KERN GE/DC
UPDATED 4/12/67



Attachment B

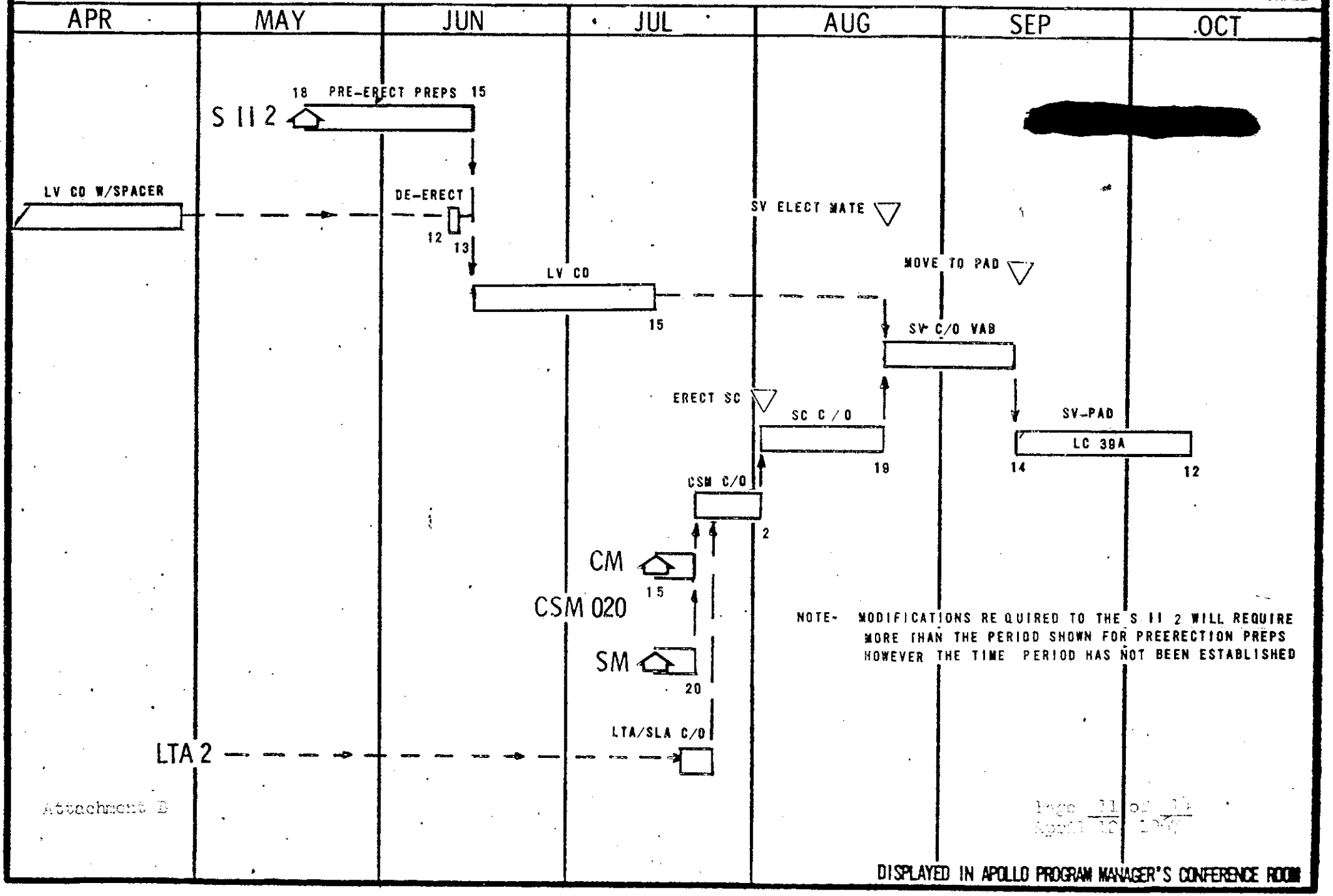
DISPLAYED IN APOLLO PROGRAM MANAGER'S CONFERENCE ROOM

CHART NO

Apollo Saturn Operations Flow

AS 502

PREPARED BY:
T. M. KNOWLES GE/DC
K. E. KERN GE/DC
UPDATED 4/12/67



Attachment D

Page 11 of 12
Appendix C

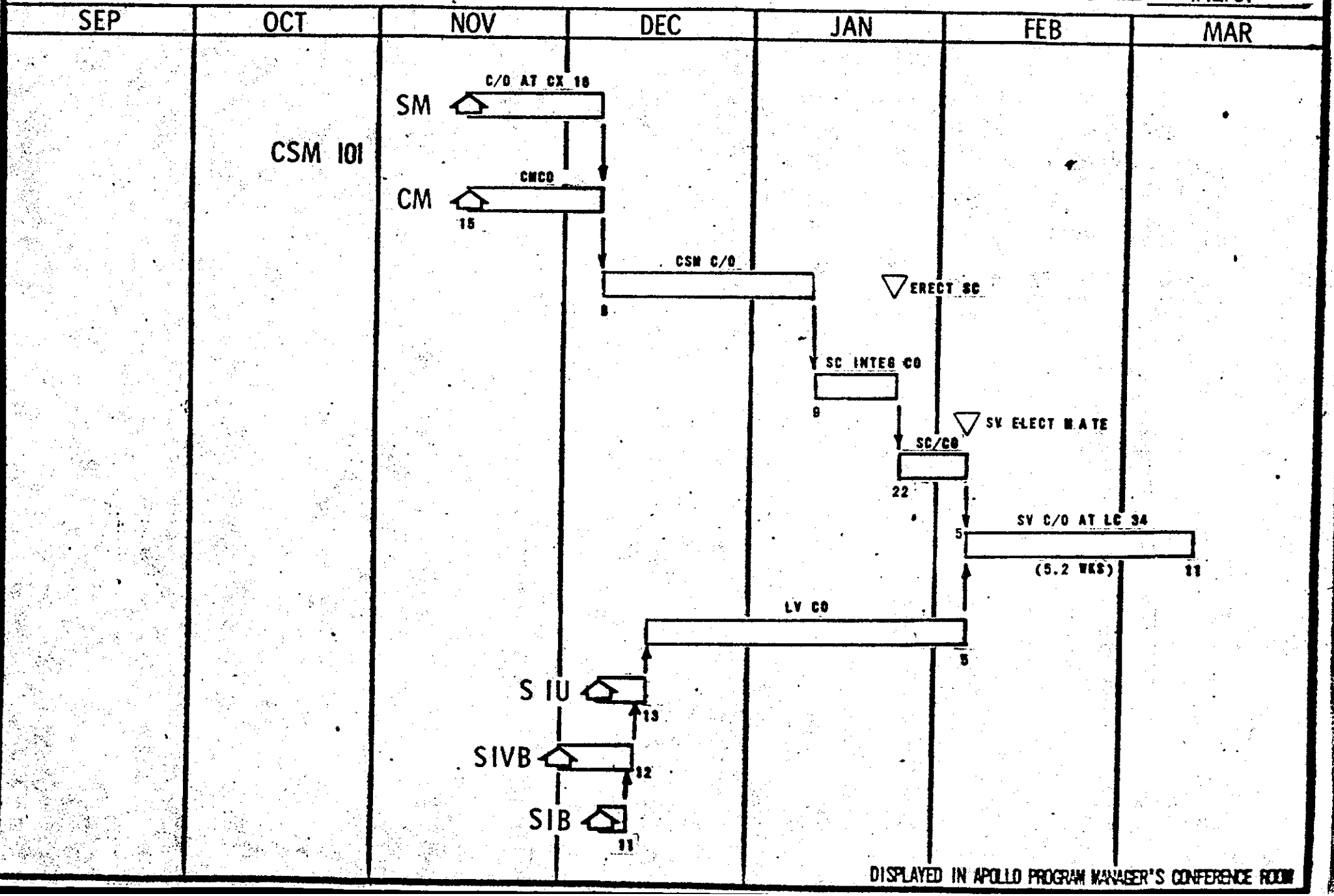
DISPLAYED IN APOLLO PROGRAM MANAGER'S CONFERENCE ROOM

CHART NO.

Apollo Saturn Operations Flow

AS 205

PREPARED BY:
T. M. KNOBLES GE/DC
K. E. KERN GE/DC
UPDATED 4/12/67



DISPLAYED IN APOLLO PROGRAM MANAGER'S CONFERENCE ROOM

CHART NO

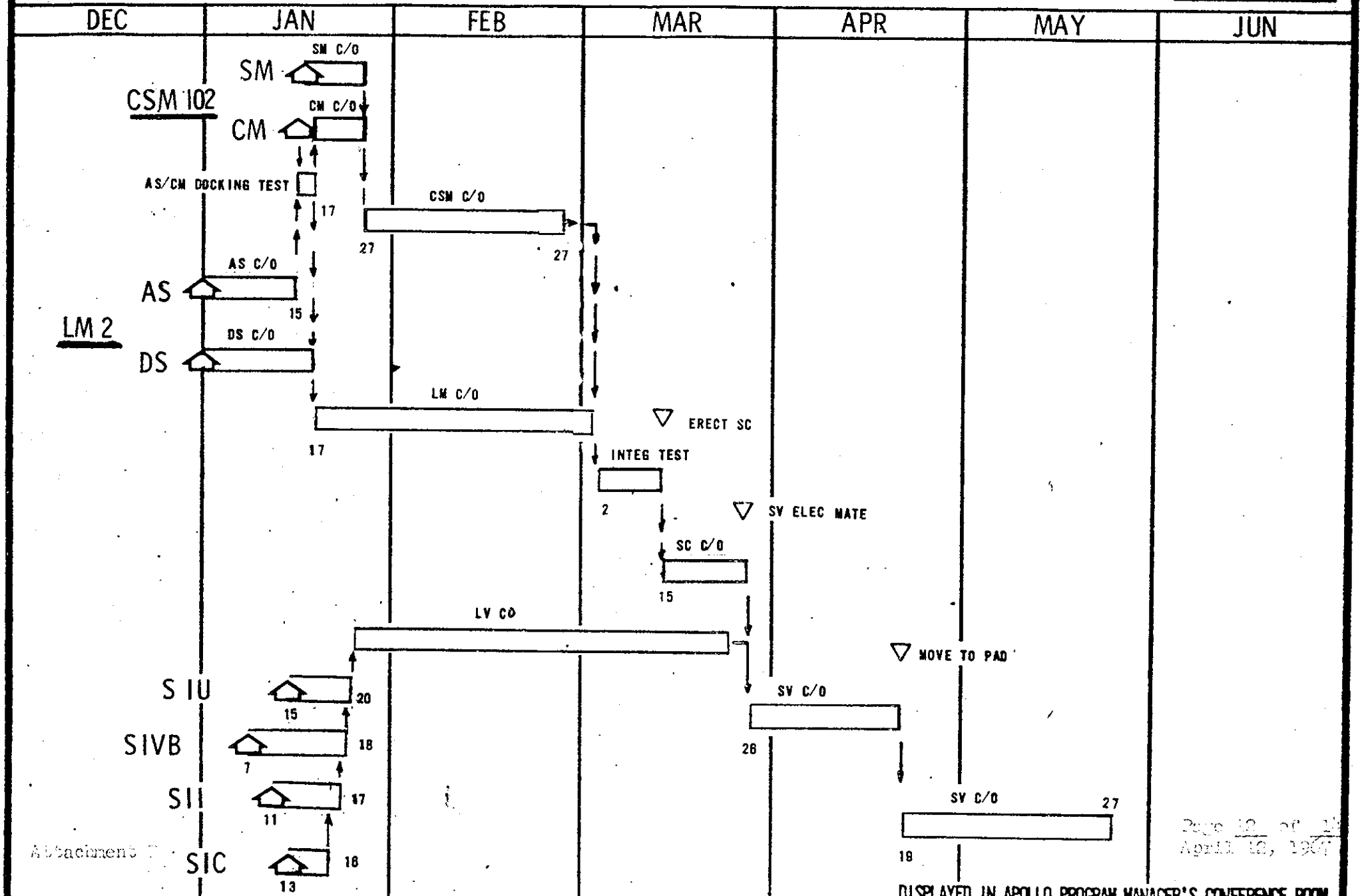
Apollo Saturn Operations Flow

AS 503

PREPARED BY:

K.E. KERN GE/DC

UPDATED 4/12/67



Attachment

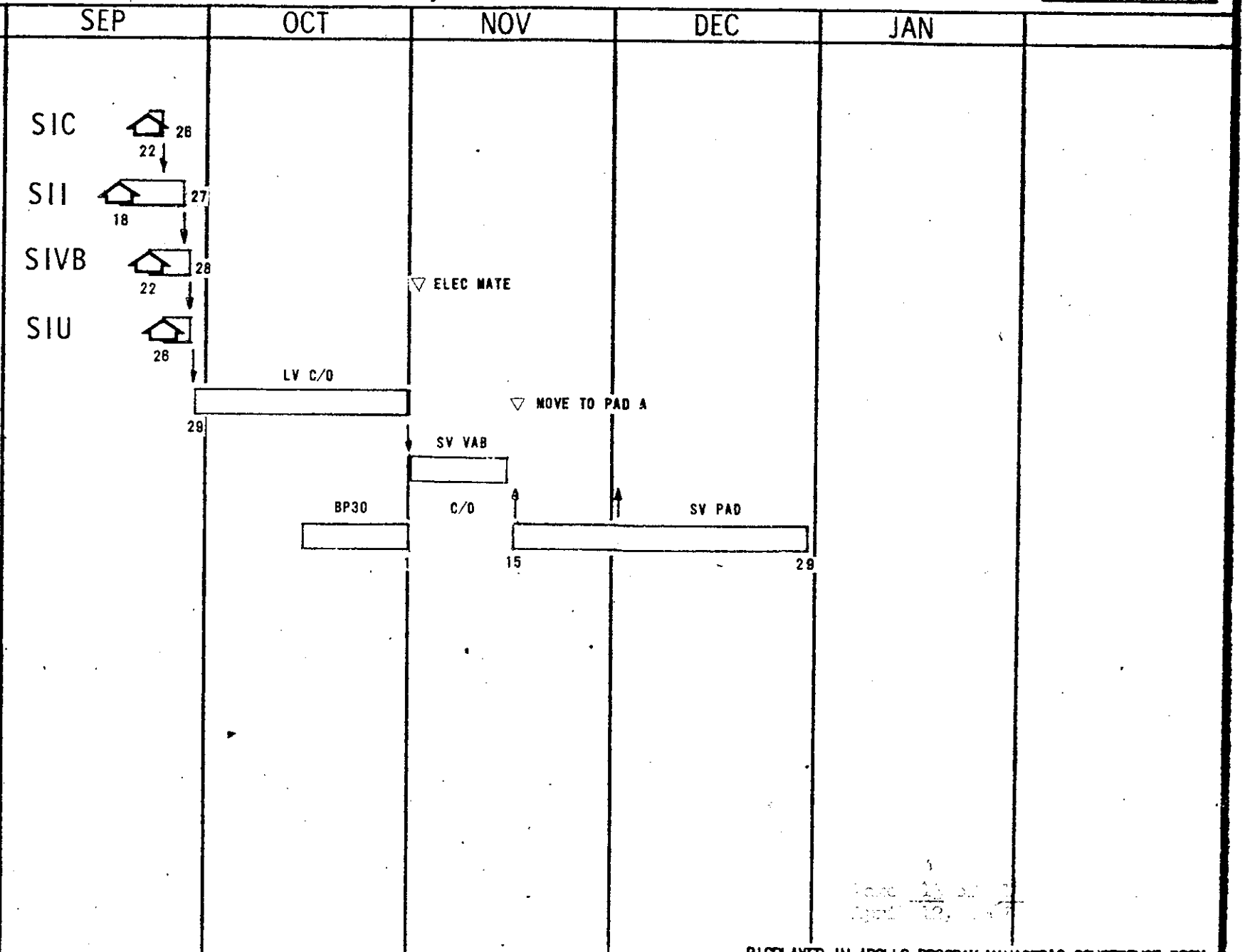
CHART NO.

Apollo Saturn Operations Flow
AS 503 / PB30

PREPARED BY:

K.E. KERN GE/DC

UPDATED 4/12/67



Attachment

DISPLAYED IN APOLLO PROGRAM MANAGER'S CONFERENCE ROOM

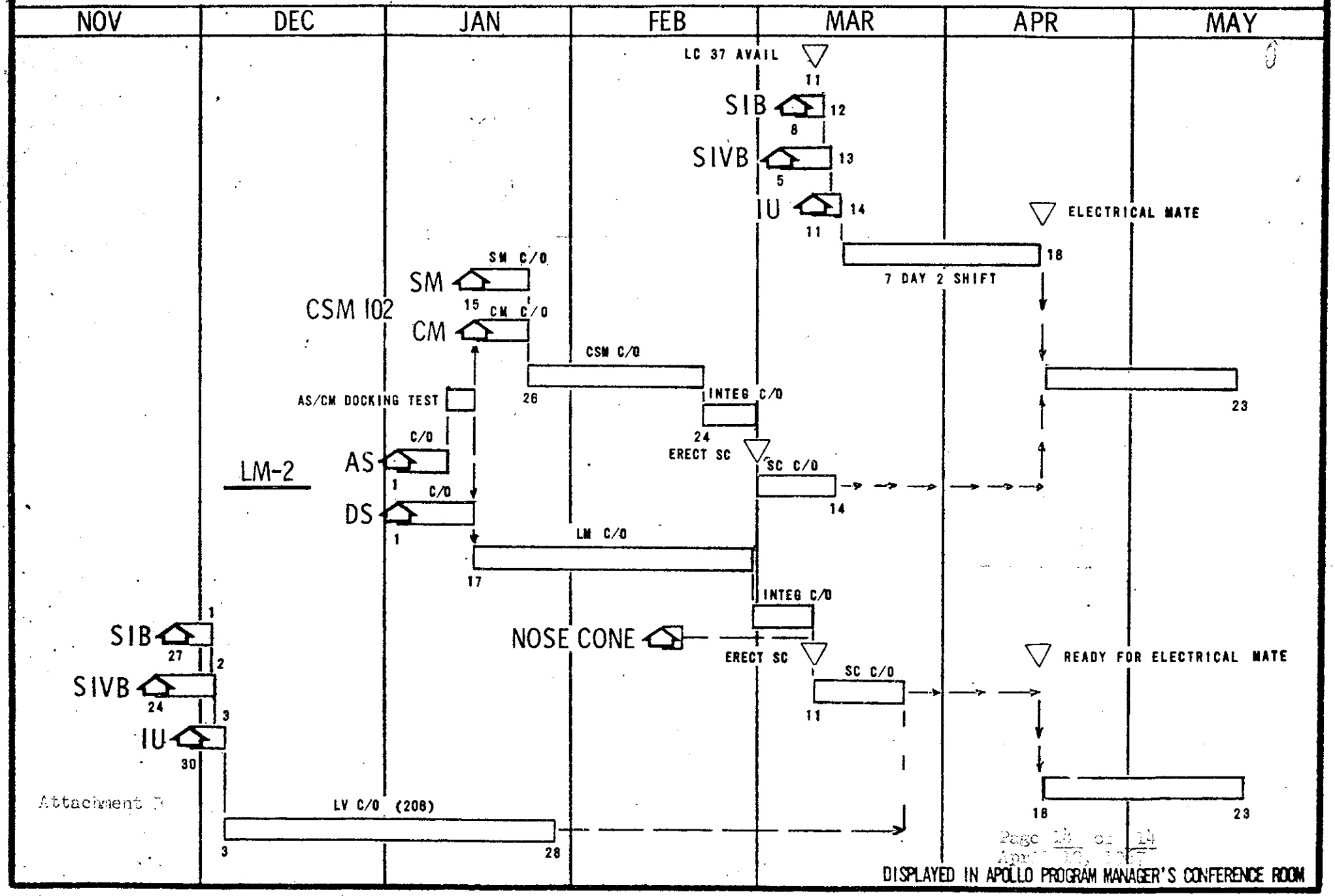
CHART NO.

Apollo Saturn Operations Flow
AS 267

PREPARED BY:

K.E. KERN GE/DC

UPDATED 4-12-67



Attachment 3

Page 24 of 14

DISPLAYED IN APOLLO PROGRAM MANAGER'S CONFERENCE ROOM

Kennedy Space Center
APOLLO PROGRAM DIRECTIVE

Date:
May 3, 1967

KSC APOLLO PROGRAM DIRECTIVE NO. 4B
(INTERIM)

TO: Distribution

FROM: Apollo Program Manager

SUBJECT: KSC APOLLO PROGRAM SCEHDULES, CONTROLLED MILESTONES AND HARDWARE ASSIGNMENTS

ACTION: All KSC Organizations are to implement the requirements of this Directive effective with the issuance date and on a continuing basis.

I. PURPOSE

This directive provides the basis for KSC Mission Support and operations planning through calendar year 1968 pending receipt of MSF Program Guidelines. This interim directive supersedes KSC Apollo Program Directive No. 4A dated 27 December 1966.

II. SCOPE

Attachment A provides Apollo Program schedules, hardware and launch complex assignments and mission assignments.

Attachment B provides KSC Apollo Program controlled schedule milestones and represent those significant events which must be accomplished in order to meet Program objectives.

Changes to Attachment B for Site Activation and Launch Operations controlled milestones will require prior approval of the Apollo Program Manager.

III. RESPONSIBILITIES

Each KSC organization is responsible for the immediate implementation of the requirements of this Directive and for requesting changes to the controlled milestones under their management system, if required.

MISSION SUPPORT AND OPERATIONS PLANNING

Flight hardware assignments and associated flight schedules shown in this attachment form the basis for interim mission support and operations planning through calendar year 1968 pending receipt of revised OMSF Apollo Program guidelines. In all cases, KSC divisions should adjust their planning and that of their contractors to develop and maintain the capability to checkout and launch in accordance with schedules and program alternatives as outlined herein.

These assignments are based on flight hardware launch schedules provided by OMSF and extrapolation where firm schedules have not been provided. These assignments are consistent with the fact that not all Apollo missions will be flown, but that one of the conditions described below will occur:

1. Spacecraft test flights on the Uprated Saturn I in support of the Lunar Landing Program will be transferred to the Saturn V as soon as that launch vehicle is capable of being manned (possibly AS 503). It is planned that this transfer will occur after the AS 205/CSM 101 flight.

2. A dual uprated Saturn I mission, AS 206/LM-2 and AS 207/CSM 102 is planned as an alternate mission to AS 503/LM-2 CSM 102. If the LM-2 CSM 102 mission is flown on AS 503 the 206/207 launch vehicles can be made available to follow-on programs. In any case, a dual uprated Saturn I and a manned Saturn V will not be flown in the same time frame.

3. The 500F-2 operations on LC-39 Pad B is still a planning requirement. A decision whether or not to conduct the test will be made after the launch of AS 501.

HARDWARE AND LAUNCH COMPLEX ASSIGNMENT
SUMMARY
UPRATED SATURN I

LV	CSM	LM	LAUNCH COMPLEX
204	NC	LM-1	37B
205	101	None	34
206 *	NC	LM-2	37B
207 *	102	None	34

*Spacecraft assignments are dependent upon maintaining the dual "CSM/LM Operations" mission capability as an alternate mission in the event AS 503 is an unmanned flight.

CONFIDENTIAL

HARDWARE AND LAUNCH COMPLEX ASSIGNMENT
SUMMARY
SATURN V

LV	CSM	LM	LAUNCH COMPLEX
AS 501	017	LTA	39A
AS 502	020	LTA	39A
AS 503	102	LM-2	39A
AS 504 *	103	LM-3	39A

*In the event AS 503 is an unmanned flight, AS 504/LM-3 CSM 103 will be the first planned manned flight in the Saturn V mainline Apollo Program.

CONFIDENTIAL

UPRATED SATURN I WORK WEEK AND SHIFTS PLANNING

WORK WEEK PLANNING

SA 204/LM-1, AS 205 and AS 206 operations from first space vehicle integrated test through launch will be planned on a six (6) day work week.

SA 204, AS 205 and AS 206 launch vehicles stage operations from start of stage checkout through the first space vehicle integrated test will be planned on a five (5) day work week with limited overtime.

AS 207 operations from start of stage checkout through launch will be planned on a six (6) day work week with limited overtime. However, scheduling constraints may necessitate rescheduling and/or rerunning major tests on the weekend.

Activation and launch operations will be planned as specified above. Activation and launch operations activities critical to achieving schedule objectives, that can be accomplished by a small crew, in comparison to the contractor's total activation/launch crew, will be planned on an around-the-clock basis including weekends as required. Examples of such type activities are:

a. Vehicle Erection
b. Stage Propulsion Checks
c. Hypergolic Tanking
d. Ordnance Installations
e. Certain Refurbishments
f. RP-1 Tanking
g. GSE Modifications
h. Any individual stage contractor work prior to launch vehicle electrical mate

Operational planning should be based on not scheduling major integrated tests to be performed on two launch vehicles on the same day.

WORK SHIFTS PLANNING

Major tests will be initiated on first shift. (A work shift is to be considered as eight (8) working hours.) Examples of major tests are: Plugs In Test, Plugs Out Test, Simulated Flight Test Countdown Demonstration Test, Flight Readiness Test.

Specifically, a major test may be defined as a test involving at least two or more stages and multiple systems. Overrun of major test into the next shift will be accomplished by overtime for those personnel required to maintain test continuity with remaining support being provided by normal second shift personnel.

Major tests will not normally be conducted on weekends; however, real time scheduling constraints may necessitate rescheduling and/or rerunning a major test on the weekend.

UPRATED SATURN I WORK WEEK AND SHIFTS PLANNING

WORK WEEK PLANNING

SA 204/IM-1, AS 205 and AS 206 operations from first space vehicle integrated test through launch will be planned on a six (6) day work week.

SA 204, AS 205 and AS 206 launch vehicles stage operations from start of stage checkout through the first space vehicle integrated test will be planned on a five (5) day work week with limited overtime.

AS 207 operations from start of stage checkout through launch will be planned on a six (6) day work week with limited overtime. However, scheduling constraints may necessitate rescheduling and/or rerunning major tests on the weekend.

Activation and launch operations will be planned as specified above. Activation and launch operations activities critical to achieving schedule objectives, that can be accomplished by a small crew, in comparison to the contractor's total activation/launch crew, will be planned on an around-the-clock basis including weekends as required. Examples of such type activities are:

a. Vehicle Erection
b. Stage Propulsion Checks
c. Hypergolic Tanking
d. Ordnance Installations
e. Certain Refurbishments
f. RP-1 Tanking
g. GSE Modifications
h. Any individual stage contractor work prior to launch vehicle electrical mate

Operational planning should be based on not scheduling major integrated tests to be performed on two launch vehicles on the same day.

WORK SHIFTS PLANNING

Major tests will be initiated on first shift. (A work shift is to be considered as eight (8) working hours.) Examples of major tests are: Plugs In Test, Plugs Out Test, Simulated Flight Test Countdown Demonstration Test, Flight Readiness Test.

Specifically, a major test may be defined as a test involving at least two or more stages and multiple systems. Overrun of major test into the next shift will be accomplished by overtime for those personnel required to maintain test continuity with remaining support being provided by normal second shift personnel.

Major tests will not normally be conducted on weekends; however, real time scheduling constraints may necessitate rescheduling and/or rerunning a major test on the weekend.

Minor tests, test set-ups, maintenance and test evaluation will normally be planned for second shift. Specifically, a minor test may be defined as independent stage checks and other tests that may involve two or more stage contractors but are limited to small portions of the stage contractors test crew.

Third shift work will normally be limited to power off modifications, minor trouble-shooting and maintenance.

UPRATED SATURN I

LAUNCH SCHEDULE

SPACE VEHICLE	STAGE	EARLIEST START DATE OF STAGE CHECKOUT OPNS	COMPLETE SPACE VEHICLE ELEC. MATE OR READY FOR FIRST INTEG. S/V TEST	CAPABILITY RANGE	LAUNCH DATE	CAPABILITY RANGE
AS 204	S-IB SIVB S-IU LM-1	Apr 7, 1967 Apr 10, 1967 Apr 11, 1967 Jun 23, 1967	Aug 30, 1967	6 weeks later	Oct 6 ,1967	6 weeks later
AS 205	S-IB SIVB S-IU SM 101 CM 101	Jan 11, 1968 Jan 12, 1968 Jan 13, 1968 Dec 15, 1967 Dec 15, 1967	Mar 13, 1968	6 weeks later	Apr 18 ,1968	6 weeks later
AS 206	S-IB SIVB S-IU LM-2	Mar 1, 1968 Mar 1, 1968 Mar 1, 1968 Feb 15, 1968	May 23, 1968	6 weeks later	July 2 ,1968	6 weeks later
AS 207	S-IB SIVB S-IU CSM 102	Apr 19, 1968 Apr 19, 1968 Apr 19, 1968 Feb 15, 1968	May 24, 1968	6 weeks later	July 2 1968	6 weeks later

Attachment B

APOLLO/SATURN V WORK WEEK AND SHIFTS PLANNING

WORK WEEK PLANNING

Apollo/Saturn V activation and launch operations activities will be planned on a five (5) day work week except that launch operations from first space vehicle integrated test through launch will be planned on a six (6) day work week. Activation and launch operations activities critical to achieving schedule objectives, that can be accomplished by a small drew, in comparison to the contractor's total activation/launch crew, will be planned on an around-the-clock basis including weekends as required. Examples of such type activities are:

a. Vehicle Erection
b. Stage Propulsion Checks
c. Hypergolic Tanking
d. Ordnance Installations
e. Certain Refurbishments
f. RP-1 Tanking
g. GSE Modifications
h. Any indificual stage contractor work prior to launch vehicle electrical mate

Operational planning should be based on not schedulin g major integrated tests to be performed on two launch vehicles on the same day.

WORK SHIFTS PLANNING

Major tests will be initiated on first shift. (A work shift is to be considered as eight (8) working hours.) Examples of major tests are: Plugs In Test, Plugs Out Test, Simulated Flight Test Countdown Demonstration Test, Flight Readiness Test.

Specifically, a major test may be defined as a test involving at least two or more stages and multiple systems. Overrun of major test into the next shift will be accomplished by overtime for personnel required to maintain test continuity with remaining support being provided by normal second shift personnel.

Major tests will not normally be conducted on weekends; however, real time scheduling constraints may necessitate rescheduling and/or rerunning a major test on the weekend.

Minor test, test set-ups, maintenance and test evaluation will normally be planned for second shift. Specifically, a minor test may be defined as independent stage checks and other tests that may involve two or more stage contractors but are limited to small portions of the stage contractors test crew.

Third shift work will normally be limited to power off modifications, minor trouble-shooting and maintenance.

~~CONFIDENTIAL~~

CONFIDENTIAL

SATURN V

LAUNCH SCHEDULE

GROUP - 4
DOWNGRADED AT 3 YEAR INTERVALS
DECLASSIFIED AFTER 12 YEARS
DOD DIR 5200.10

SPACE VEHICLE	STAGE	EARLIEST START DATE OF STAGE CHECKOUT OPNS	COMPLETE SPACE VEHICLE ELEC. MATE OR READY FOR FIRST INTEG. S/V TEST	CAPABILITY RANGE	LAUNCH DATE	CAPABILITY RANGE
AS 501	S-IC S-II SIVB S-IU CSM 017 LTA-10	Oct 27, 1966 Jan 21, 1967 Nov 1, 1966 Dec 22, 1966 Sep 15, 1966	June 16, 1967	6 weeks later	Aug 21, 1967	6 weeks later
AS 502	S-IC S-II SIVB S-IU CSM 020 LTA-2	Mar 13, 1967 May 18, 1967 Feb 21, 1967 Mar 17, 1967 Aug 31, 1967 Jan 15, 1967	Oct 2, 1967	6 weeks later	Dec 6, 1967	6 weeks later
AS 503	S-IC S-II SIVB S-IU CSM 102 LM-2	Feb 15, 1968 Feb 12, 1968 Feb 9, 1968 Feb 15, 1968 Feb 15, 1968 Feb 15, 1968	May 17, 1968	6 weeks later	Jul 17, 1968	6 weeks later

Attachment B

CONFIDENTIAL

SATURN V

LAUNCH SCHEDULE

CONFIDENTIAL

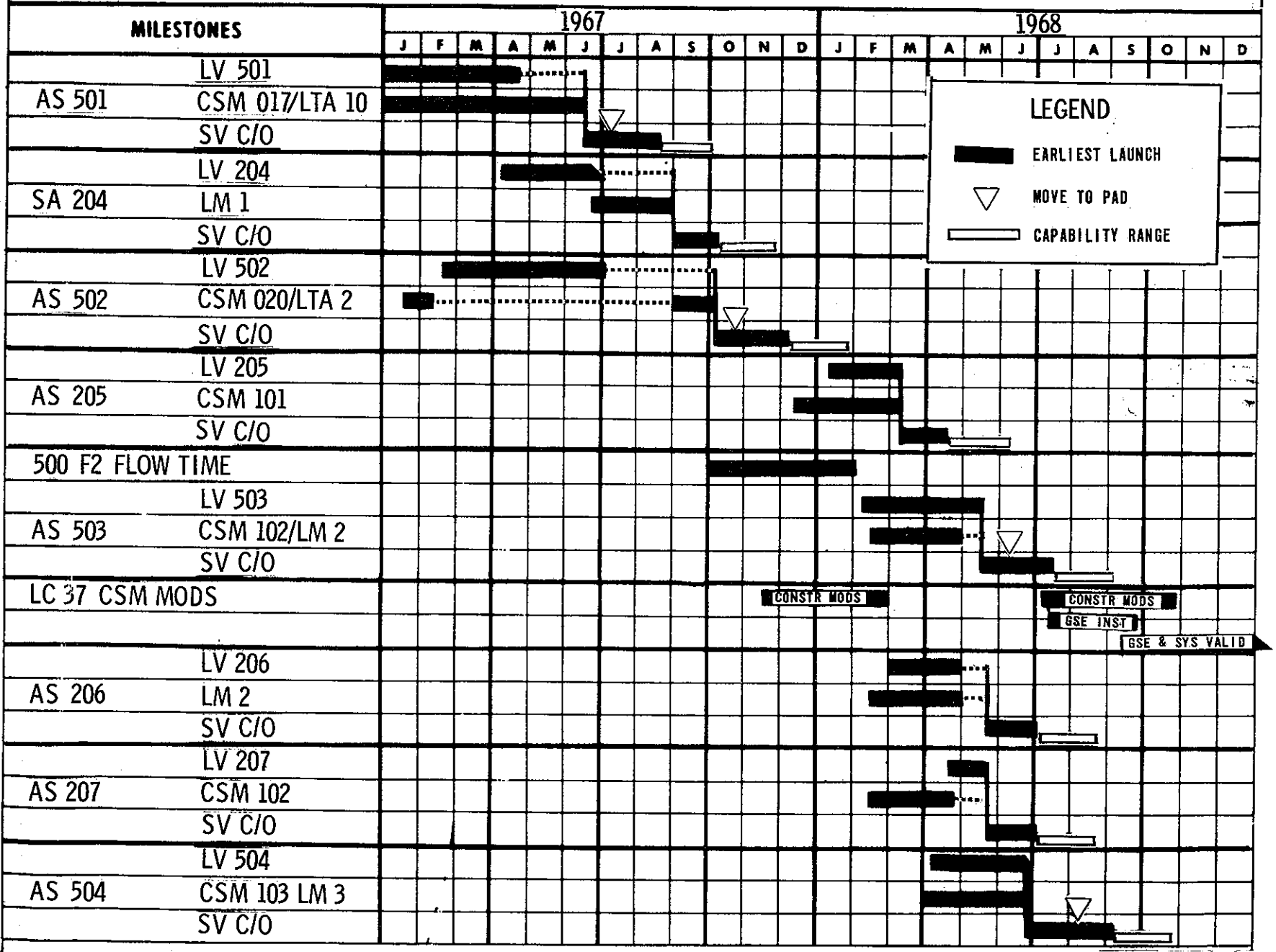
SPACE VEHICLE	STAGE	EARLIEST START DATE OF STAGE CHECKOUT OPNS	COMPLETE SPACE VEHICLE ELEC. MATE OR READY FOR FIRST INTEG. S/V TEST	CAPABILITY RANGE	LAUNCH DATE	CAPABILITY RANGE
AS 504	S-IC S-II SIVB S-IU CSM 103 LM-3	Apr 11, 1968 Apr 11, 1968 Apr 8, 1968 Apr 18, 1968 Apr 15, 1968 Apr 1, 1968	Jun 29, 1968	6 weeks later	Sep 4, 1968	6 weeks later

ACTIVATION MILESTONES

A.	LUT-3	
	1. LUT-3 operational ready for 500F-2	October 11, 1967
	2. LUT-3 operational ready for Apollo/Saturn V Space Vehicle	April 1, 1968
B.	CSM/LM ACTIVATION	
	1. Complete CSM Block II GSE checkout and LM/GSE checkout on LUT-1 and VAB Hi-Bay #1	January 15, 1968
	2. Complete CSM Block II GSE and LM/GSE checkout on MSS and Pad A	March 27, 1968
	3. Complete CSM Block II GSE and LM/GSE checkout on LUT-2 and VAB Hi-Bay #3	March 1, 1968
	4. Complete CSM/LM GSE checkout on Pad B	May 3, 1968
C.	Complete all GSE/ESE installation and checkout in LCC Firing Room #3 to support operational space vehicle	April 15, 1968
D.	Complete all construction and outfitting and all GSE/ESE installation and checkout in VAB Hi-Bay #2 to support operational space vehicle.	May 15, 1968
E.	Pad B operational ready for 500F-2	October 26, 1967

CONFIDENTIAL

APOLLO SATURN PROGRAM PLAN



ATTACHMENT B

CONFIDENTIAL